

memory devices and systems, optical memory devices and systems, fixed memory and removable memory.

[0064] In an embodiment, the apparatus **800** may be or be comprised in a terminal device of a wireless access communication system, e.g. a user equipment (e.g. the STA **102**), a user terminal (UT), a computer (PC), a laptop, a tabloid computer, a cellular phone, a mobile phone, a communicator, a smart phone, a palm computer, or any other communication apparatus. Further, the apparatus **800** may be or comprise a module (to be attached to a device, such as to the STA **102**) providing connectivity, such as a plug-in unit, an “USB dongle”, or any other kind of unit. The unit may be installed either inside the device or attached to the device with a connector or even wirelessly. In an embodiment, the apparatus **800** may be or be comprised in a wireless device operating under the IEEE 802.11, for example. In another embodiment, the apparatus **800** may be or be comprised in a network node, such as in an access point or an access node operating under the IEEE 802.11.

[0065] The apparatus **800** may further comprise communication interface (TRX) **806** comprising hardware and/or software for realizing communication connectivity according to one or more communication protocols. The TRX **806** may provide the apparatus with communication capabilities to access the wireless radio access network, for example.

[0066] The apparatus **800** may also comprise a user interface **808** comprising, for example, at least one keypad, a microphone, a touch display, a display, a speaker, etc. The user interface **808** may be used to control the apparatus **800** by the user.

[0067] The control circuitry **802** may comprise a transmission control circuitry **810** for setting the initial PPDU size and for causing the transmission of the PPDU comprising the plurality of MPDUs, for example. An acknowledgment frame analysis circuitry **812** may be for analysing the received ACK frames in order to know which one(s) of the MPDUs of the PPDU were not correctly received by the receiver, for example. A packet duration control circuitry **814** may set the maximum packet duration allowed, according to any of the embodiments.

[0068] In case the apparatus **800** is or is comprised in a power saving STA, such as the STA **104**, the controller **802** may additionally comprise a sleep mode control circuitry **816** for controlling the dozing and awake periods as well as for controlling the waiting duration before accessing the channel.

[0069] As used in this application, the term ‘circuitry’ refers to all of the following: (a) hardware-only circuit implementations, such as implementations in only analog and/or digital circuitry, and (b) combinations of circuits and software (and/or firmware), such as (as applicable): (i) a combination of processor(s) or (ii) portions of processor(s)/software including digital signal processor(s), software, and memory(ies) that work together to cause an apparatus to perform various functions, and (c) circuits, such as a microprocessor(s) or a portion of a microprocessor(s), that require software or firmware for operation, even if the software or firmware is not physically present. This definition of ‘circuitry’ applies to all uses of this term in this application. As a further example, as used in this application, the term ‘circuitry’ would also cover an implementation of merely a processor (or multiple processors) or a portion of a processor and its (or their) accompanying software and/or firmware. The term ‘circuitry’ would also cover, for example and if applicable to the particular element, a baseband integrated circuit

or applications processor integrated circuit for a mobile phone or a similar integrated circuit in a server, a cellular network device, or another network device.

[0070] The techniques and methods described herein may be implemented by various means. For example, these techniques may be implemented in hardware (one or more devices), firmware (one or more devices), software (one or more modules), or combinations thereof. For a hardware implementation, the apparatus(es) of embodiments may be implemented within one or more application-specific integrated circuits (ASICs), digital signal processors (DSPs), digital signal processing devices (DSPDs), programmable logic devices (PLDs), field programmable gate arrays (FPGAs), processors, controllers, micro-controllers, microprocessors, other electronic units designed to perform the functions described herein, or a combination thereof. For firmware or software, the implementation can be carried out through modules of at least one chip set (e.g. procedures, functions, and so on) that perform the functions described herein. The software codes may be stored in a memory unit and executed by processors. The memory unit may be implemented within the processor or externally to the processor. In the latter case, it can be communicatively coupled to the processor via various means, as is known in the art. Additionally, the components of the systems described herein may be rearranged and/or complemented by additional components in order to facilitate the achievements of the various aspects, etc., described with regard thereto, and they are not limited to the precise configurations set forth in the given figures, as will be appreciated by one skilled in the art.

[0071] Embodiments as described may also be carried out in the form of a computer process defined by a computer program. The computer program may be in source code form, object code form, or in some intermediate form, and it may be stored in some sort of carrier, which may be any entity or device capable of carrying the program. For example, the computer program may be stored on a computer program distribution medium readable by a computer or a processor. The computer program medium may be, for example but not limited to, a record medium, computer memory, read-only memory, electrical carrier signal, telecommunications signal, and software distribution package, for example. Coding of software for carrying out the embodiments as shown and described is well within the scope of a person of ordinary skill in the art.

[0072] Even though the invention has been described above with reference to an example according to the accompanying drawings, it is clear that the invention is not restricted thereto but can be modified in several ways within the scope of the appended claims. Therefore, all words and expressions should be interpreted broadly and they are intended to illustrate, not to restrict, the embodiment. It will be obvious to a person skilled in the art that, as technology advances, the inventive concept can be implemented in various ways. Further, it is clear to a person skilled in the art that the described embodiments may, but are not required to, be combined with other embodiments in various ways.

1. A method, comprising:

- determining, by a transmitter node, maximum packet duration for a data packet to be transmitted, wherein the data packet comprises a plurality of data units;
- causing a transmission of the data packet;